

Presidential Address: Antitrust restrictions on single-firm strategies

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Abstract. This article offers an overview of selected developments in the law and economics of antitrust regulation of single-firm strategies. The strategy generating the most cases historically is resale price maintenance. Here, the law has moved sharply in both Canada and the U.S. towards more solid economic foundations. Yet a gap between the law and economics remains. The economics of resale price maintenance is reviewed within a framework that is much simpler and more general than the existing literature. The law on a second strategy, predatory pricing, represents in my view a success story for the influence of economic theory in spite of the absence of a single accepted theory of predatory pricing. The remaining single-firm strategies are concerned largely with the exclusion by a dominant firm of rivals from a market. I review, with application to cases, the two most basic questions concerning exclusionary strategies. Are exclusionary, anticompetitive contracts ever entered into voluntarily by market participants? On the other hand, is complete or substantial foreclosure of a market through exclusionary strategies necessarily anticompetitive?

Restrictions antitrust sur les stratégies d'une firme unique. Cette allocution présidentielle à l'Association canadienne d'économie présente une vue d'ensemble des développements dans le droit et l'économie de la réglementation antitrust sur les stratégies d'une firme unique. La loi sur la stratégie qui génère historiquement le plus de cas (le maintien du prix de revente) a changé dramatiquement au Canada et aux États-Unis et dérivé vers une politique qui a des assises économiques solides. Mais il reste un écart entre

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le droit et l'économie. On réexamine l'économie du maintien du prix de revente à l'aide d'un cadre d'analyse qui est à la fois plus simple et plus général que ce qui existe dans la littérature spécialisée. La loi pour ce qui est d'une seconde stratégie (prix d'éviction) est, à mon avis, une grande réussite pour la science économique malgré l'absence d'une seule théorie du prix d'éviction généralement acceptée. Un troisième ensemble de stratégies concerne l'exclusion de ses rivaux d'un marché par la firme dominante. L'auteur réexamine, avec un recours extensif aux cas, les deux questions de base pour ce qui est des stratégies d'exclusion: Est-ce que les participants sur un marché entrent jamais volontairement dans un arrangement contractuel qui exclut et est anticoncurrentiel? D'autre part, est-ce que la saisie complète ou substantielle d'un marché par des manœuvres d'exclusion est nécessairement anticoncurrentielle?

1. Introduction

The past forty years have seen an enormous increase in the input of economists in the practice of competition policy. Before the mid-1970s, economists had little role in the selection or development of cases and almost no role as expert witnesses. At the Antitrust Division of the U.S. Department of Justice (DOJ), as Richard Posner observed in 1971, economists were 'handmaidens to the lawyers, and rather neglected ones at that.'¹ In Canada, economists had a similarly minor role in competition policy. While they assisted in finding and organizing statistics, economists contributed little to the formulation of case theories or to the analysis of evidence.¹

Today, economists are intensively involved in competition policy. One indicator is their employment in the area. The two U.S. enforcement agencies, the DOJ and the Federal Trade Commission (FTC), employ some 130 PhD economists. The Directorate General for Competition of the European Commission employs 83 economists.² The Canadian Competition Bureau employs 11 PhD or ABD economists and the Canadian Competition Tribunal, which hears civil cases, typically includes a PhD economist. Consulting firms in North America and Europe employ many times these numbers as expert witnesses and analysts in antitrust cases.

Are the law and economics of competition policy now aligned, after years of involvement by economists, or does the law diverge from economic foundations in important ways? I offer some remarks on this question within one area of competition policy: the legal restrictions placed on the strategies adopted by a single firm in the marketplace. Along with merger policy and horizontal issues such as price fixing, restrictions on unilateral strategies are one of three main areas of competition policy. But these restrictions happen to be the most controversial area. And this is a particularly opportune time to re-examine the economic foundations of the area because policy in Canada, the U.S. and Europe is both non-uniform and unsettled. In all three jurisdictions, competition enforcement

1 See White (2008) for a cogent discussion of the growing influence of economists on antitrust.

2 As of 2007; a quarter of these economists had a PhD in economics (2007 *Handbook of Competition Economics*).

agencies have recently issued drafts and revisions of guidelines on single firm conduct or abuse of dominance (which covers most single-firm strategies restricted by law). Guidelines are critical in shaping firm behaviour in the market because government agencies have substantial discretion in selecting cases, and firms are aware that litigation challenging the agencies' decisions is costly and protracted with uncertain outcomes. In September 2008, the U. S. Department of Justice released a 200-page report on Single Firm Conduct. That the area is still in flux is reflected in the sharp objections to the report written by three of the four sitting commissioners at the FTC and in the decision by President Obama's new antitrust appointee to withdraw the report, on the grounds that it offered insufficient protection to consumers against abuse of market dominance.³

Furthermore, the legal status of resale price maintenance, one of the most important unilateral strategies, has recently changed dramatically in both Canada and the U.S. (Resale price maintenance involves the setting of a vertical price floor on downstream distributors of a product and is dealt with outside the abuse of dominance provisions in the law.⁴) With the March 2009 amendments to the Competition Act, resale price maintenance is no longer per se illegal and criminal in Canada but is instead a reviewable practice under the civil section of the *Act*. In the U.S., an important Supreme Court antitrust decision, *Leegin*,⁵ recently altered the 100-year-old status of this practice from per se illegality to rule of reason but did not specify a precise rule of reason. While the law on resale price maintenance has changed, bills have been introduced in Congress to re-establish the illegality of the practice.

At the outset, it is useful to offer some general remarks about the differences between economic and legal ways of thinking about antitrust restrictions on firm strategies. Economists are *consequentialist*. We evaluate policies according to the impact that the policies have on market participants. And we are *welfarist*: the criteria by which we assess the impact of policies are based on the welfare of the individuals affected. Equivalently (as Kaplow and Shavell 2001 show), we adopt the Pareto principle. (In any normative analysis here, I take as the objective the total surplus of market participants. This removes from consideration the use of regulatory restrictions to redistribute surplus among individuals of different wealth levels.⁶)

3 Three of the four sitting Federal Trade Commissioners called the report a 'blueprint for radically weakened enforcement of section 2 of the Sherman Act' (FTC Press Release, 8 September 2008). Originally the report had been planned as a joint publication, and historically the Department of Justice and FTC have worked closely together in developing guidelines.

4 The term 'resale price maintenance' is sometimes used to describe price ceilings as well as price floors. Price ceilings have been legal in the U.S. since *State Oil Co. v. Khan*, 522 U.S. 3 (1997) and never illegal in Canada.

5 *Leegin Creative Leather Products, Inc. v. PSKS, Inc.*, 551 U.S. 2007.

6 The quantitative difference between total surplus and a more fundamental welfare-based criterion such as the Kaldor-Hicks criterion of potential Pareto improvement is minor compared with the range of potential errors and approximations involved in antitrust analysis (following Willig 1976), notwithstanding the critique of Hausman (1981).

It is tempting to assume that the law is also consequentialist and attribute any departure of antitrust law from economic foundations to a difference in objectives between the law and economics. For example, as in merger policy, the law could place more emphasis on consumer benefits than on the objective of maximizing total surplus.⁷ In the area of restrictions on individual firm strategies, however, the divergence between law and economics is more often due to the fact that cases or statutes apply simple principles that are sometimes inconsistent with the maximization of economic efficiency. Under the law, competition can be an end in itself rather than a *means* to greater economic benefits. Practices that raise prices or contracts that leave a dominant firm with an even larger share of a market are automatically viewed with suspicion. For example, agreements to maintain higher prices are per se illegal in the U.S. under section 1 of the Sherman Act, and until *Leegin* this per se illegality was applied not just to horizontal arrangements but – inappropriately – to agreements between vertically related parties along a supply chain. Competition becomes an end in itself under the law. In fact, strategies that on the surface appear to suppress competition can in some cases enhance efficiency. An additional factor underlying differences between the law and economics is confusion between protecting competition and protecting the competitors of a dominant firm. Protecting competitors is never a sensible goal in itself, because any pro-competitive strategy, better serving consumer interests, necessarily harms a firm's rivals.

Table 1 offers a list of the main single-firm strategies that are restricted by competition policy. Table 2 offers a list of the Canadian cases on abuse of dominance (section 79 of the Competition Act), which is the most common route to challenge the majority of the strategies in table 2. In the 23 years since the Act was passed in 1986, only nine abuse-of-dominance cases have been brought by the Competition Bureau and only six of these were contested.

On resale price maintenance, we see a different level of enforcement activity.⁸ Table 3 provides the number of Canadian resale price maintenance criminal charges since 1970. (Because the law on resale price maintenance did not change substantially with the Competition Act in 1986, I have gone back further in time.) Between 1975 and 2000, 175 resale price maintenance charges were laid. It is tempting to infer that the Bureau was simply a resale price maintenance prosecuting machine over this period, but these cases were small and occupied few resources of the Bureau. Nonetheless, the number of cases point to resale

7 In the U.S. and Europe, mergers that harm consumers will generally be disallowed. In Canada, after *Canada (Commissioner of Competition) v. Superior Propane Inc.* (30 August 2000), CT-1998/002, a merger is assessed effectively on a weighted average of consumer surplus and producer surplus that deviates from total surplus only to the extent warranted by low wealth levels of consumers. In *Superior Propane*, a merger was allowed in spite of a ruling that it would likely result in higher prices, because cost savings meant that gains in profits more than offset losses in consumer surplus.

8 Note that the number of cases is an incomplete indicator of enforcement, since most cases are settled.

TABLE 1
The principal unilateral strategies constrained by competition law

Strategy	Definition or example
Resale price maintenance	Price floor imposed by upstream firm on retailers
Exclusive dealing	Purchase of <i>A</i> requires purchase of all requirements of <i>A</i> ; or, sale of an input to a firm prohibits sale of the input to any other firm
Tying	Purchase of <i>A</i> requires purchase of all requirements of <i>B</i>
Bundling	<i>A</i> and <i>B</i> sold together as a bundle
Loyalty discounts or rebates	A price discount based on the share of requirements purchased from the seller
Refusal to deal	Refusal to provide access to essential assets
Low prices (predatory pricing)	Pricing below avoidable cost for purpose of inducing exit, allowing later recoupment of lost profits
Meeting competition clauses	Seller agrees to meet any price offered to the buyer by other sellers of the same product
Right of first refusal	Seller has an option of meeting any price offered to the buyer

TABLE 2
Canadian abuse of dominance cases since 1986

Year	Case	Product	Strategies included	Outcome
1990	Nutrasweet	Aspartame	Exclusive dealing; meeting competition; low prices	Order prohibiting selected practices
1992	Laidlaw	Waste management	Long-term contracts, exclusivity	Order prohibiting selected practices
1994	Nielsen	Information	Long-term contracts, exclusivity	Order prohibiting selected practices
1994	CANYPS	National Yellow Pages advertising	Exclusivity-type/tying provisions	Consent agreement
1997	Interac	Electronic banking services	Limited access to network; erection of barriers to entry	Consent agreement
1997	Teledirect	Telephone directory ads	Tying of space to ad services	Order prohibiting practice
2002	Enbridge	Natural gas hot water heaters	Exit charges; exclusivity; price-match guarantee	Consent agreement
2003	Air Canada	Air travel	Response to entry: ↑ capacity and predatory pricing	Bankruptcy of Air Canada
2005	Canada Pipe	Cast-iron pipe; fittings	Loyalty contracts (price discount for exclusivity)	Order prohibiting practice; appealed (FCA); consent agreement

SOURCE: Competition Bureau *Draft Guidelines on Abuse of Dominance*, January 2009.

TABLE 3
Number of resale price maintenance (criminal) cases 1966–2007

Period	Number of formal actions
1966–70	7
1971–5	15
1976–80	47
1981–5	58
1986–90	38
1991–5	10
1996–2000	7
2001–7	10

SOURCE: Csorgo (2004), updated with annual reports of the competition commissioner.

price maintenance as the strategy most affected by antitrust restrictions – until the amendments of the Competition Act in March 2009.

Given its prominence among restricted strategies, I offer an overview of the law and economics of resale price maintenance and then turn to the main themes in competition policy on the remaining practices.

2. Resale price maintenance

2.1. Incidence

Vertical price floors have been imposed on retailers of a wide cross-section of products: clothing, skis and other sports equipment, watches, jewellery, luxury goods of all kinds, candy, beer, bread, floor wax, furniture polish, milk, toilet paper, cereal, canned soup, books, shoes, mattresses, large appliances, and automobiles, to name a few (Overstreet 1983; Ippolito 1991). Products in virtually every category have been subject to resale price maintenance at one time or another, and estimates of the proportion of retail sales that have been subject to resale price maintenance range as high as 25% in the U.K and 4% to 10% in the U.S. (Scherer and Ross 1990, 549). In Canada, before the law prohibiting resale price maintenance (RPM) was enacted in 1951, an estimated 20% of goods sold through grocery stores and 60% sold through drugstores were ‘fair-traded’ (Overstreet 1983, 153, 155).

2.2. The puzzle and traditional explanations

Demand is downward sloping. RPM would therefore appear to be unprofitable for a manufacturer: at a given wholesale price, setting a floor raises the retail price and should therefore reduce demand and upstream profits. Why do manufacturers ever engage in resale price maintenance?

Telser (1960) offers two explanations. The main point of this classic article is that resale price maintenance can serve to facilitate an upstream cartel among manufacturers. Coordinating wholesale prices would be difficult for members of an upstream cartel because these prices are not posted and may be part of more

complicated contracts. Coordinating an upstream cartel via the monitoring of retail prices without vertical restraints would also be difficult because of the variation or ‘noise’ that enters the relationship between a wholesale price and the set of retail prices charged in different locations. Retail price floors allow upstream cartel members to agree on prices and to monitor prices. Telser used this theory to explain the adoption of resale price maintenance by GE and Westinghouse in the market for large lamps.⁹

Telser’s second theory – not the main point of his paper but the explanation of RPM for which the article is famous – is a free-riding argument. The theory is that demand for a manufacturer’s product may depend upon special services offered by the retailer, such as point of sale information. If some stereo retailers are providing services such as advice and listening rooms, for example, a rival retailer may be tempted simply to sell stereo equipment ‘in the box’ and set a low price to attract consumers who have been informed at other stores. The effect is to diminish the incentives to provide information, with a decrease in total demand for the product. RPM pre-empts the free-riding.¹⁰

The problem with the traditional theories of RPM is that they explain neither the wide popularity of the practice during the periods when it was legal nor the range of cases when laws against RPM were most stringent. Regarding the cartel theory, Ippolito (1991) examined the complete set of U.S. cases involving any allegation of ‘vertical price-fixing’ or ‘vertical price issues’ over the period 1976 to 1982¹¹ and found that only 10% of private cases and 17% of government cases involved even allegations of horizontal collusion. Furthermore, the range of markets in which RPM is observed alone rules out cartel facilitation as a dominant explanation. The economy is not rife with cartels.

Telser’s special services theory is also incapable of explaining the wide range of products for which RPM has been used, as many scholars have noted. Many of the ‘fair-traded’ products are simple with no need for service or information. Consumers do not try on socks and underwear at one store before purchasing the right size at a discount store. The Marvel-McCafferty theory of free-riding on quality certification has more potential for explaining the wide use of RPM, but as Klein (2009) points out, the brand names of many fair-traded products are stronger than the brand names of department stores carrying them. The quality

9 Jullien and Rey (2007) formalize this argument. Note that RPM can also result from a downstream retail cartel. When retailers sell multiple products and require collectively that all manufacturers in a product market engage in RPM, then the retailer cartel can effectively implement cartel pricing across products. This explanation is of some historical importance in explaining, for example, the success of traditional drug stores in delaying the development of discount drug stores (Overstreet 1983, 143).

10 The free-riding argument has since been used for a wider range of retailer actions than special services, including, in particular, the Marvel and McCafferty (1984) theory that up-market retailers certify the quality of goods through their (costly) decision to carry the goods. RPM prevents discount stores from free-riding on this certification.

11 This was a natural period to consider because RPM was legal in some states until the repeal in 1975 of the Miller-Tydings and McGuire Acts; and the *Colgate* defence of RPM (discussed below) was weakest prior to *Monsanto Co. v Spray-rite Service Corp.*, 104 S.Ct. 1464 (1984).

certification theory has some power to explain the frequency of RPM, but it is difficult to know how much.

The U.S. Supreme Court recognized in *Leegin* that the incentives for RPM extend beyond the traditional free-riding theory, citing Mathewson and Winter (1998), Klein and Murphy (1988) and Deneckere, Marvel and Peck (1996). Free-riding is essentially a necessary condition for the defence of RPM in Europe, however,¹² and remains the prominent efficiency theory of RPM in general. Justice Breyer's dissent in *Leegin* captures a view of RPM that is among competition scholars and policymakers in general:

Petitioner and some amici have also presented us with newer studies that show that resale price maintenance sometimes brings consumer benefits. Overstreet 119-129 (describing numerous case studies). But the proponents of a per se rule have always conceded as much. *What is remarkable about the majority's arguments is that nothing in this respect is new . . . The one arguable exception consists of the majority's claim that, even absent free riding, resale price maintenance may be the most efficient way to expand the manufacturer's market share by inducing the retailer's performance and allowing it to use its own initiative and experience in providing valuable services . . . Ante, at 12. I cannot count this as an exception, however, because I do not understand how, in the absence of free-riding (and assuming competitiveness), an established producer would need resale price maintenance.* Why, on these assumptions, would a dealer not expand its market share as best that dealer sees fit, obtaining appropriate payment from consumers in the process? There may be an answer to this question. But I have not seen it. 551 U. S. ____ (2007) 15 BREYER, J., dissenting [emphasis added]

Justice Breyer's dissent is an invitation to re-examine the incentives for RPM.

2.3. Failure of simple price contracts to coordinate incentives

In Winter (2009), I offer a synthesis of the incentives for RPM and its welfare effects. Consider the simplest model of a monopolist offering a product to downstream retailers, who resell the product to final consumers. Suppose that the upstream monopolist can offer two-part tariffs to retailers, so that the contracts will be designed to maximize total profits of the system.¹³ Suppose further that the retailers are symmetric, differentiated Bertrand (price-setting) competitors in the downstream market. The wholesale contract with retailers will be set to maximize total industry profit, incorporating the constraint that retailers will be competing downstream, given the contract.

Suppose that the manufacturer's contract specifies only a two-part price, without vertical restraints on retailers' decisions. Justice Breyer's central point in his dissent in *Leegin* can be paraphrased in the following question: why (in the

12 In Europe, the admissibility of vertical restraints relies on the credibility of a free-rider argument: 'speculative claims on avoidance of free-riding or general statements on cost savings will not be accepted' (*European Vertical Guidelines*, para 136).

13 I assume that the contracts are public and committed to by the manufacturer. This rules out the theory of O'Brien and Shaffer (1992) that without RPM even in a monopolistic market prices may be driven down to competitive levels as a consequence of externalities across contracting parties.

absence of free-riding) would this simple contract ever fail to elicit optimal retailer decisions?

If demand downstream depended only on price, the optimal simple contract would be compatible with optimal retailer incentives; that is, the optimal two-part price would elicit the retail price that would be set by a hypothetical, fully integrated monopolist. No complicated contracts could be explained. I depart from this framework in the simplest possible way, incorporating the fact that, in reality, retailers do more than just set a price. Retailers offer product information and exert sales effort generally; set sales staff quality and number; design displays for products; promote products locally; choose shelf location for products; organize product inventory; offer fitting rooms, comfortable and clean shopping environments, adequate cashier lines, music, and so on. To take the simplest case, assume a single dimension of service. I consider, in sum, a model of a manufacturer selling to n retailers, who in turn face symmetric demand functions $d_1(p_1, s_1; \dots; p_n, s_n), \dots, d_n(p_1, s_1; \dots; p_n, s_n)$ where (p_i, s_i) are the price and service levels offered by retailer i . Letting (p^*, s^*) be the collective profit-maximizing (symmetric) decisions by retailers, Justice Breyer's question in the context of this model is: at the optimal variable wholesale price, why would (p^*, s^*) fail to be a Nash equilibrium under the optimal two-part price? In other words, why would an individual retailer fail to set (p^*, s^*) given that other retailers are setting (p^*, s^*) ?

A necessary and sufficient condition for retailers' incentives to be first-best optimal is that the marginal rate of substitution (MRS) between p and s , in attracting the optimal level of demand, be identical for the retailer and the hypothetical, integrated monopolist. In other words, the simple price contract will fail to coordinate incentives (thus opening the door for explanations of more complicated contracts) whenever the MRS's differ between the retailer and the integrated monopolist. This simple condition captures three special cases that have been offered in the literature for why retailers may be *biased* away from service and towards low prices as a means of attracting demand.

The first special case is a market where the services offered by each retailer *add to* the demand facing other retailers. The existence of these positive externalities is a generalization of the free-riding theory. It is obvious (even without the model or algebra) that with any kind of positive externalities in service, retailers will invest too little in service: the manufacturer would like the outlet to take into account the increase in demand at other retailers in setting service, but, of course, the outlet does not. The asymmetry in the traditional free-rider story, in which one outlet provides no service at all, is completely beside the point. The positive externality, or spillover hypothesis, is possible even within a symmetric model. Free-riding is one special case of positive externalities.¹⁴

14 Positive externalities may be of the point-of-sale information type, but the set is much broader: Marvel and McCafferty's quality certification is one example. Another is the simple fact that prominent displays in one store act as 'reminder advertising' that can increase demand in other stores by consumers whose need for the product arises subsequent to their store visit.

Another special case is the first non-free-riding explanation offered for RPM in the theoretical literature. Mathewson and Winter (1984) developed a model of vertical restraints in which local promotional expenditures may or may not spill over into other retailer's equilibrium sales territories. (In the non-spillover case, local advertising expenditures informed only those potential consumers of the advertising retailer; in the spillover case, some informational messages attracted potential consumers of neighbouring retailers.) We showed that even in the non-spillover case, that is, without positive externalities, the simple price contract fails. Klein and Murphy (1988) adopted a similar assumption in a framework that yielded an explanation of RPM.¹⁵

This second explanation again is stronger than necessary to explain RPM. It is not necessary that the service cross-elasticity of demand be zero (or positive). It simply needs to be proportionately less than the price-cross elasticity. In Winter (1993), I show that retailer bias towards price competition, and the failure of the simple price contract, can result simply from consumer heterogeneity. The story is simple. The retailer MRS is determined by the demands of two types of consumer: those attracted into the market and 'shoppers' – consumers attracted away from other outlets. The manufacturer would like the outlet to focus only on the former, since consumers attracted away from other outlets do not represent new sales. The MRS for the first type of consumers is identical between the manufacturer and the retailer, and the manufacturer would like the retailer to design its strategy entirely around attracting these consumers. However, the shoppers tend to care relatively more about price than service. These are consumers with low time costs. And since the various types of retailer 'service' are largely about lowering transactions (time) costs of purchasing, shoppers care relatively less about services than they do about low prices. Shoppers are like my mother-in-law, Wilma, who would happily travel across town to save a few dollars and did not mind waiting in long cashier lines, shopping without much help from retail staff, or even returning to the store if their inventory was low. The retailer, in accommodating shoppers to some extent, is biased towards low prices and against high service in designing its strategy to attract any given level of demand. Again, the simple price contract fails to coordinate retailers' incentives.

2.4. The two roles of resale price maintenance in coordinating retailer incentives

How does RPM resolve these incentive distortions? A manufacturer can use

Reputational spillovers related to the quality of post-sales service is also a source of positive externalities – partly because a consumer cannot easily distinguish the quality of the product from the quality of the service, but also because the manufacturer's distribution system itself may develop a reputation as supporting strong post-sales service.

- 15 The assumption of no spillovers – no externalities at all in service – is as a special case of the differing-MRS condition because the marginal impact on demand of a change in service is identical between the monopolist and the retailer (there being no spillovers), but the marginal impact of a lower price differs because of the cross-elasticity in retailers' demands. The MRS, which is the ratio of marginal effects, therefore also differs between the retailer and the monopolist.

RPM to elicit greater service from retailers through two mechanisms. First, at a given wholesale price, imposing a vertical price floor increases the retail margin, $(P - w)$. The retail margin is the marginal benefit to the retailer of each purchase attracted through increased service. Raising the price floor, by increasing the marginal benefit of greater service, elicits greater expenditure by retailers on service. This is the role that RPM plays in Mathewson and Winter (1984) and Winter (1993). The second mechanism by which RPM can enhance service is by protecting rents at the retail level (Klein and Murphy 1988). If the manufacturer monitors (at some cost) the level of service provided by retailers, then the threat of a loss in rents provides incentive for retailers to maintain adequate service.

2.5. *The welfare economics of resale price maintenance*

When RPM is used to align retailer incentives with the manufacturer's interest, what is the impact on total surplus in the market? The key principle in the welfare analysis of RPM is the result of Spence (1975) that a monopolist may under-invest or over-invest in quality, depending on how the tastes of the *marginal* consumers compare with the tastes of the *average* consumer purchasing, including infra-marginal consumers. If consumers who are just at the margin of buying would pay 1.25 for \$1 more expenditure per unit on quality, the monopolist will invest in quality and raise the price. A social planner, on the other hand, would want quality raised only if the average of all buyers currently purchasing (including the infra-marginal buyers) valued a unit increase at 1.25.

It is easy to find examples where total surplus increases with RPM or decreases with RPM. Let me offer just one suggestive (rather than formal) example. Consider a luxury good sold by a monopolist, unthreatened by even potential competition.¹⁶ Suppose that buyers vary mostly in wealth, as opposed to preferences. Luxury goods are highly income elastic, so infra-marginal consumers have higher wealth on average than marginal consumers. Retailers of luxury goods are up-market retailers, such as Tiffany's or Saks Fifth Avenue. The types of service offered by these retailers are also highly income elastic in demand: wealthy people tend to respond more to status, prestige, pampering by sales staff, and so on. Because the monopolist accommodates the preferences of consumers at the margin, instead of infra-marginal consumers, its privately optimal configuration of price and service *undersupplies* service at the retail level.

Suppose now that we introduce the following source of incentive distortion in the provision of service at the retail level. While 95% of consumers do not shop but simply buy (if at all) while at the store, 5% of consumers, 'shoppers,' decide to buy while at home and are then destination shoppers, travelling to the store based on prices. The existence of the shoppers creates an incentive distortion because

16 This example is motivated by the issue currently being decided by the European Commission: should a luxury good supplier have the right to impose restraints on the distribution of its product. The specific issue is not RPM, but whether suppliers can legally limit the distribution of their products on the internet. The economics, however, are similar.

retailers design their strategies partly to accommodate these buyers, who care only about low prices rather than service.

In this example, one can order the marginal value of service in the following sequence, from high to low: the social planner's MRS, the monopolist's MRS, and the retailer's MRS. As a result, an RPM contract that brings retailers' provision of service closer to the monopolist's optimum also brings the retailer's strategy closer to the social optimum. Welfare increases with RPM.¹⁷

Of course, RPM may decrease total welfare in other examples. The empirical test required to distinguish efficient from non-efficient uses of RPM would be a comparison of marginal versus infra-marginal preferences. Are we *ever* going to see evidence like that in any case? Not a chance. It is a challenge to identify the behaviour of marginal consumers, let alone the preferences of infra-marginal consumers relative to marginal customers. The upshot of our discussion is that when a single manufacturer uses RPM, in the absence of a cartel, total surplus may or may not go up, and there is no practical, implementable test that can distinguish the efficient from the inefficient uses of RPM.

I take as an assumption that the burden of proof in intervening in the market should fall on the side of the intervention. In other words, we do not regulate a business practice because regulation *may* increase welfare. In terms of arriving at a precise policy recommendation, this may sound like a complete cop-out. But it is no different than the policy we have with respect to regulating a monopolist's choice of price and non-price dimensions of products *outside* of the context of vertical restraints. We do not, for example, restrict the prices luxury watch manufacturers charge to \$5,000 per watch with the hope that welfare will increase. Nor should we intervene when a manufacturer is using vertical restraints to implement the tradeoff between price and service. In short, the policy supported by this analysis is a rule of reason: that RPM be allowed unless there is evidence that it is being used by a small group of firms to facilitate cartel pricing.¹⁸

2.6. *The current law on resale price maintenance*

Canada's new law on RPM went into effect with the amendments to the Competition Act on 12 March. RPM is no longer a criminal, per se illegal activity. RPM is now a reviewable practice, which the Tribunal can prohibit in a case if it leads to an adverse effect on competition in a market. It remains to be seen how this law is interpreted – whether it is consistent with the suggestion I have made here that evidence of cartel pricing should be regarded as necessary to proscribe RPM.¹⁹ The European Commission is in the process of revising their *Guidelines*

17 This analysis considers the effects of a 'marginal use' of RPM, that is, a price floor constraint that moves the market marginally away from the unconstrained equilibrium. A welfare comparison of the optimal use of RPM would require a parameterized model.

18 The necessary conditions for cartel pricing are well known: a small number of firms, similar products, some barriers to entry, ease of detection of cheating, and so on.

19 One might suspect that the condition of 'adverse effect on competition' would be satisfied in the law simply if RPM is shown to raise prices or inhibit intrabrand competition, in which case the

on *Vertical Restraints*, but as the *Guidelines* stand now, evidence supporting a credible free-riding theory remains essentially a necessary condition to defend RPM. I have discussed at length why this is inappropriate.

In the U.S., the law on RPM, following *Leegin*, as interpreted by the FTC in *Nine-West* (2008), is that a manufacturer bears the burden of proving that the use of RPM is pro-competitive unless it can prove the *absence* of all of the so-called *Leegin* factors: (1) that dealers, not the manufacturer, were the impetus for RPM; (2) that the use of RPM was ubiquitous in the industry; (3) that there is a dominant manufacturer or dealer.

This law is not supported by economic theory. Factor (3) alone shows that a monopolist would always have the burden of proving pro-competitive effects. As a matter of economics, assuming ‘pro-competitive’ would be interpreted as welfare increasing, the pro-competitive use of RPM is not necessarily related to output: the use of RPM by a pure monopolist may increase welfare even when output falls. To meet the burden of proving efficiency, a monopolist would, in theory, need evidence on infra-marginal and marginal preferences. This evidence is never going to be available. Regarding the second *Leegin* factor, firms in the same market generally face similar conditions. If many use RPM (or any other business practice) then absence of evidence of collusion, the presumption that the practice is efficient should increase, not decrease. Finally, regarding the first factor, if dealers are the impetus for RPM, but the manufacturer is clearly ‘on board,’ then RPM maximizes total profits of both levels. The economic theory that I have outlined here applies, and RPM should be allowed.

Leegin is a big step towards an RPM policy that has a solid basis in economics. But as the brief critique of *Nine West* shows, we are not there yet. And practising lawyers in the U.S. continue to advise their clients on strategies (referred to as ‘Colgate programs,’ based on *Colgate*²⁰) that have been used to circumvent the common law rule against RPM. RPM law in the U.S. has taken a large step towards more solid economic foundations, but a significant gap remains.

3. Antitrust restrictions on other strategies: abuse of dominance

I turn now to the other strategies listed in table 2, beyond resale price maintenance that can be constrained or prohibited by competition policy. These strategies – exclusive dealing, tying, bundling, low pricing – are restricted for the most part under a section of competition policy called abuse of dominance (section 79 in the Canadian Competition Act). Intervention under abuse of dominance provision

law against RPM would have been relaxed very little. But there is reason to be optimistic that this is not the case. The condition that the practice influences price upwards and the condition of an adverse effect on competition are stated as separate necessary conditions in the new sections 76 (1) (a) (i) and 76 (1) (b), respectively. The principles of statutory interpretation require that the distinct conditions have separate meanings. An ‘adverse effect on competition’ must therefore go beyond influencing upwards the price of a single product.

20 *U.S. v Colgate and Co.* 250 U.S. 300 (1919).

requires the demonstration of two facts: dominance on the part of the firm whose strategies are being restricted and substantial lessening of competition as a result of the strategy being constrained or prohibited.²¹ Rather than discussing how the law applies to each of the practices, I offer an overview of the two dominant theories under which these practices can be restricted: predation and exclusion (by means other than predation). With reference to cases, I illustrate the links between the economics and the law with respect to these two theories.

3.1. Predation

Predatory pricing is a theory under which low pricing can be anticompetitive. The idea is that a dominant firm in a market sets prices so low as to induce the exit of a smaller rival and to establish a reputation as a firm that competes very aggressively against any entrant into the market. Once the rival has left the market, the dominant firm, protected by its reputation against further entry, can raise prices to monopoly levels.²²

My discussion of predatory pricing is limited to an outline and discussion of two cases that support my own view of the area: that the law on predatory pricing was misguided in the past and the recent narrowing of the legal basis for intervention represents a positive development. The appropriate scope in policy for prohibiting low prices is narrow because of the difficulty in identifying predation and because of the relative rarity of the practice. For a thorough (and more balanced) analysis of predation, I refer the reader to the excellent article by Bolton, Brodley, and Riordan (2000).

The difficulty with predatory pricing as a target of regulation is that this strategy is extremely difficult to distinguish from competitive pricing. As a matter of economics, identifying predatory pricing relies on two kinds of evidence. First, evidence that price is less than marginal cost (or its closest observable proxy) is essential, because prices greater than marginal cost can so often be explained as competitive.²³ Pricing less than marginal cost involves a temporary loss that represents, in theory, an investment in the opportunity to recoup profits. Second, evidence that recoupment of lost profits through the elimination of competitors is likely or at least plausible is essential, because it is only in the recoupment through high prices that harm to consumers exists.

The possibility of recoupment of profits is, logically, a necessary condition for price to fall below marginal cost given profit maximization. No firm would

21 The Federal Court of Appeal in *Canada Pipe* ruled that under section 79 a third condition is required: that the practice harms a competitor. I discuss the implications of this unfortunate decision below.

22 Predation can use strategies other than pricing, but most allegations of predation involve pricing. In *Air Canada* (discussed below) and the U.S. case against American Airlines (which was bounced on summary judgment), the allegations of predation included the strategy of adding capacity.

23 It is possible to write down a theoretical model where prohibiting low prices even above cost is welfare improving. But in my view, a workable policy that identified these cases would be impossible.

price below marginal cost without the prospect of recouping lost profits later. The economist reader may wonder therefore why I assert that evidence on recoupment through elimination of competition is important. The answer, illustrated by the cases discussed in this section, is that direct evidence on price-cost comparisons is fraught with conceptual and practical difficulties. Relying on price-cost evidence alone raises the probability of false positives to an unacceptable level in predatory pricing cases – and this risk in turn can have a chilling effect on pro-competitive, low pricing strategies. As I discuss below, the law in this area is now consistent with this view.

The law on predatory pricing in both Canada and the U.S. through the 1980s was focused on price-cost tests alone. *R. v. Hoffmann-LaRoche Ltd.*²⁴ illustrates very clearly the mistakes that can be made when the law is concerned only with evidence on the comparison of prices and costs. This was a case in which price was zero, thus meeting any kind of price-cost test of predatory pricing, yet the conclusion that the pricing was anticompetitive was clearly wrong.

Hoffmann-LaRoche, provided diazepam, marketed as Valium, at zero cost to hospitals over a six-month period. Hoffmann-LaRoche was convicted of the crime of selling Valium at ‘unreasonably low prices’ with ‘the effect or tendency of substantially lessening competition *or eliminating a competitor*, or designed to have such an effect,’ in violation of section 50 of the *Competition Act* (emphasis added). This section of the Act, fortunately, was repealed in the March 2009 amendments to the Act.²⁵ Harm to a competitor as an alternative basis for intervention, that is, as an alternative to substantial lessening of competition, has no place in well-designed competition policy.²⁶

Hoffmann-LaRoche did give away its product after a new competitor (Frank Horner Ltd) entered with a generic brand of Valium. A price-cost test would appear to be satisfied. As a matter of economics, however, the recoupment test fails, because more than a dozen generic producers of diazepam subsequently – and predictably²⁷ – entered the market. The entry costs of these firms were very low. The theory that Hoffmann-LaRoche undertook predatory pricing in an attempt to preserve a monopoly against the entry of all these firms, and was simply unsuccessful, is completely implausible.

Economic theory offers an explanation of the incumbent firm’s policy in this case of offering low prices, even zero prices, as a *response* to competition rather than an attempt to prevent competition. (The distinction between these two

24 (1980), 28 O.R. (2d) 164 (H.C.J.), aff’d (1981), 33 O.R. (2d) 694 (C.A.).

25 Even before the amendments, the Competition Bureau recognized the logical insufficiency of the eliminating-a-competitor condition in its 2008 *Predatory Pricing Guidelines*: ‘In general, however, the mere elimination of a competitor is not a sufficient basis for the Bureau to pursue predatory pricing under the criminal provisions, unless it is likely to substantially lessen or prevent competition and also meets the definition of ‘egregious’ conduct’ (20). The Bureau, as a matter of practice, has substantial flexibility in interpreting the law.

26 Nor has it an appropriate place as a condition *in addition to* substantial lessening of competition, contrary to the decision of the Federal Court of Appeal in *Canada Pipe*, as discussed below.

27 These firms licensed Hoffmann-LaRoche’s patent on the drug under Canada’s compulsory licensing laws.

hypotheses is, of course, at the heart of the issue.) The market for prescription drugs such as Valium is a market in which consumers reveal significant switching costs, that is, low probabilities of switching. Having been given the drug in a hospital, a consumer is unlikely to switch to a generic because of uncertainty (however ill founded) in the quality of the generic, especially if health insurance is covering part of the additional cost of the brand name drug. In markets with switching costs, the impact of competitive entry is manifest in advance of entry (Klemperer 1987). Here, anticipating future competition in the ‘post-hospital market’, Hoffmann-LaRoche rationally lowered its hospital price to zero in order to increase its market share in the post-hospital market. Its pricing policy represented an investment in market share. In any market with switching costs or other sources of inertia in market shares, the prospect of greater competition in the near future will induce lower prices today as the current firm or firms invest, at a cost given by the shortfall of current prices below costs, in future market share.

This case illustrates the difficulty of distinguishing conceptually between competitive pricing and predatory pricing. The price of zero was not below cost if ‘cost’ is measured by netting out the benefits of investment in future market share – but this approach to measuring cost is problematic, since even in a genuine predatory pricing case low prices can be interpreted as an investment in market share.

Air Canada,²⁸ another Canadian case, illustrates the practical difficulties in relying on price-cost tests, even setting aside any conceptual difficulties with the tests. In this case, the accounting costs of Air Canada were separated into 43 categories, and each category was assessed as to whether it was an avoidable cost (roughly, an opportunity cost) on the basis of a set of factors, such as whether the particular cost was offset by net revenue from passengers taking connecting flights. The two sides agreed that 17 of the categories were avoidable and disagreed on 26 categories; the Tribunal found that 19 of the 26 disputed categories were avoidable and 7 were not (Csorgo 2009). The case was dropped before the Tribunal had decided whether Air Canada’s pricing practices substantially lessened competition (in what was to be Phase II of the hearing) when Air Canada – the alleged *predator* in the case – declared bankruptcy.²⁹

In sum, *Hoffman-LaRoche* illustrates the conceptual difficulties of price-cost tests and *Air Canada* illustrates their practical difficulties. A case like *Hoffmann-LaRoche* would not be brought today. Since *Brooke Group*³⁰ in the U.S., predatory pricing cases now require evidence of recoupment in that jurisdiction; similarly, in Canada, the requirement of recoupment was prominent in the Bureau’s *Predatory Pricing Guidelines* even before the repeal of section 50 of the Competition Act. The repeal of section 50 means that predatory pricing cases will now be brought under section 79, the abuse of dominance section. This change will bring an even greater focus on substantial lessening of competition as a necessary condition for intervention.

28 *Canada (Commissioner of Competition) v. Air Canada* (2003), 26 C.P.R.(4th) 476 (Comp.Trib.).

29 The U.S. case against American Airlines met with the same difficulties in price-cost comparisons.

30 *Brooke Group Ltd. v. Brown and Williamson Tobacco Corp.*, 509 U.S. 209 (1993).

I regard predatory pricing policy as a success story in terms of the impact of economic theory on the law. Successful predatory pricing cases are likely to be very rare in Canada now and have been rare in the U.S. since *Brooke Group*. But this is as it should be, not just because predatory pricing is likely to be rare in practice but because evidence clearly identifying low prices as predatory is likely to be even rarer.³¹

3.2. Exclusion

The idea that a dominant firm will in some circumstances use a contract such as exclusive dealing, tying or a long-term contract to exclude a rival from its market to the detriment of consumers has long been one of the most controversial areas of competition policy. I offer a high-level overview of this theory, addressing two sets of questions:

1. As a matter of economics, can a contract, offered by a dominant firm and voluntarily accepted by buyers or input suppliers, be exclusionary and anti-competitive? Is the answer to this economic question reflected in the law?

This question was long debated in the economic theory literature but is now settled. A contract can be anticompetitive, reducing total efficiency (total surplus) in a market even when it is voluntarily entered into by market participants. I review the debate on this question and illustrate the economics with Canadian cases. We can also ask the opposing question:

2. Are there circumstances under which *complete* monopolization of a market through exclusionary contracts is efficient? And is the answer to this question reflected in the law?

Here the answer to the economic question is: yes. Even when a firm uses exclusivity with the effect of changing a perfectly competitive market to a monopoly, the effect may be efficient. This principle is not reflected in the law.

I develop the economics underlying these two principles, and illustrate them with Canadian cases. My aim is modest. I do not offer a full-blown analysis of how to apply economic principles to solve the most challenging exclusionary cases. Instead, the cases are selected specifically to illustrate the two principles most clearly.

31 This view of *Brooke Group* and predatory pricing generally is not shared by all antitrust scholars. Kaplow and Shapiro (2007) conclude their discussion of predatory pricing with the following statement about *Brooke Group*: 'the Court's strong concern about false positives may have been warranted, but the logic of an independent recoupment requirement in addressing this concern remains unclear' (p.1202). I regard the recoupment requirement as the strength of the *Brooke Group* decision. A price-cost test is very difficult to rely upon – as *Hoffmann-LaRoche* and *Air Canada* illustrate – and it is therefore logical for the law to require evidence of an additional implication of predatory pricing, the reasonable prospect of recoupment.

3.2.1. Can a contract be exclusionary with a negative impact on market efficiency?

The traditional view. The traditional perspective on this question is that a monopolist can use its position to impose contracts on buyers that are not in their interest. The clearest expression of this perspective that I have seen anywhere is by the government expert in *Laidlaw* (1991). Laidlaw was an incumbent, with a market share of 87%, in the market for commercial waste services (collection and disposal) in four local communities on Vancouver Island. Among its allegedly anticompetitive practices were the following: long-term customer contracts with automatic renewal and the requirement of substantial advance notice by a terminating buyer; excessive liquidated damages; and rights of first refusal. Laidlaw's contracts resulted in barriers to the development by new entrants of the necessary client base to cover fixed costs.

The government expert in *Laidlaw* stated: 'The dangers from contracting arise when one side of the market has the power to impose contract terms on the other . . . If one contracting party is a monopolist . . . it can preserve its market power by insisting that its customers (or suppliers) sign long-term contracts,' and 'buyers gain nothing from the . . . provisions in the contract [at issue in the case]. Hence, the very fact that nearly all buyers sign such contracts is evidence that Laidlaw has and exercises market power' (Expert Report of Roger Noll in *Laidlaw*, paras 21 and 42).

The early Chicago view. The Chicago School of antitrust law, represented by Bork (1978), found fault with this logic. The Chicago School offered two propositions in response to the traditional view:

- *A contractual clause cannot be imposed on a buyer without compensation. A contract, such as an exclusivity, a tying, or a long-term contract, is voluntarily entered into by a buyer and a seller and must maximize the sum of payoffs to the contractual parties.*
- *A contract must therefore be efficient.*

The first of the Chicago propositions is correct. The logic is unassailable. Setting aside variation in buyer types (which would bring us into the realm of price discrimination), an optimal contract must maximize the sum of payoffs to contractual parties because, if another contract were available that offered a greater sum of payoffs, the parties could switch to the new contract and share the gains in payoffs. The idea that, if one contracting party is a monopolist, it can preserve its market power by insisting that its customers (or suppliers) sign long-term contracts is simply wrong. Any contract is in the *combined* interest of the buyer and seller. Only the price or transfer component of the contract reflects monopoly power or relative bargaining power.

The second Chicago proposition is wrong. This is the message of the post-Chicago school, which I turn to next.

The post-Chicago view. Aghion and Bolton (1987) offered a counter-argument to the Chicago view of voluntary contracts as invariably efficient. A contract can reduce total surplus when it imposes negative externalities on agents outside the contract. The logic behind inefficient contracts is the same as the logic underlying inefficient decisions by a single agent: when some costs are external, decisions will not be efficient.

Aghion and Bolton offered two specific arguments, both involving long-term contract offers by an incumbent supplier in advance of an entry decision by a rival. The more powerful of these arguments relies on the possibility of externalities or a collective action problem among buyers. Consider an incumbent in a market, faced with the threat of entry in the near future by a single potential entrant. If the entrant bears some fixed or sunk cost, then at the time of potential entry it will need a minimum number of 'free' buyers, unencumbered by long-term commitments to the existing seller, in order to enter the market. Suppose the incumbent offers a long-term contract to buyers in return for a small discount in price. Buyers as a whole would be better off rejecting the offer, since doing so would allow the potential entrant into the market, increasing future competition. But acceptance by each buyer is a Nash equilibrium of the subgame in acceptance decisions. Each buyer, individually, accepts the long-term contract offer in return for a slightly reduced price because she knows that she alone has no impact (or very little impact, if the entrant's costs are stochastic) on the chance of entry. Even an entrant more efficient than the incumbent can be deterred by the long-term contracts.³²

Aghion-Bolton's other argument (the argument for which the paper is most often cited) involves an externality imposed on the potential entrant. Consider a market with a single buyer, to set aside the argument of the last paragraph, and suppose a single unit of a product is being exchanged. An incumbent faces the threat of entry by a single entrant with a random cost of producing the unit. The buyer needs only one unit and bears no cost of waiting until the realization of the entrant's cost, to purchase this unit. The incumbent chooses between waiting until the entrant's costs are realized to make an offer to the buyer in competition with the entrant, and offering a contract *ex ante*. We interpret the *ex ante* contract as a long-term contract.

A long-term contract is a pair (\mathbf{p}, \mathbf{d}) where \mathbf{p} is the price and \mathbf{d} the stipulated damages that must be paid by the buyer if she leaves the contract and purchases the single unit of the product from the entrant instead. The key is that buyer and the seller together can design a contract that extracts a transfer from the entrant.

32 This argument relies on an assumption that even a Pareto-dominated Nash equilibrium of the subgame in acceptance decisions can be an outcome. If we allow for price discrimination, that is, different contract offers to different buyers, then the argument is stronger in the sense that the contract offers can be designed so that acceptance on the part of each buyer is a unique equilibrium (Segal and Whinston 2000). Rasmussen, Ramseyer, and Wiley (1991) (RRW) is most often cited for the buyer-collective-action argument, but as Segal and Whinston point out, RRW do not solve the complicated game specified in their article in that they are not consistent in their use of the assumption of price discrimination.

For each dollar increase in d , the price that the entrant can charge the buyer, conditional upon entry, is reduced by a dollar because d is part of the buyer's opportunity cost of accepting the entrant's contract.

The anticompetitive, or inefficient, impact of the long-term contract is not the transfer itself; the inefficiency lies in the fact that the optimal choice of the contract (p, d) deters the entrant even for some realizations of cost that make the entrant the more efficient supplier.³³ Ironically, while the inefficiency lies in the entry deterrence aspect of the contract, the long-term contracting strategy pays off for the incumbent (or the incumbent-buyer contracting pair) only in the states where entry is successful and d is paid.³⁴

*Laidlaw*³⁵ illustrates both of the Aghion-Bolton theories. Entrants into local commercial waste disposal markets, in this case, required sufficient numbers of available buyers because of the substantial fixed (though not sunk) costs of a single garbage truck. Recovering these costs is rendered more difficult by the economies of density in the market, that is, the costs of having to service a given number of available buyers spread out in the community. A single truck required a volume of sales in the order of 10% of the local market in several of these communities. With the staggering of long-term contracts by *Laidlaw*, the time to accumulate a sufficient number of buyers represented a significant entry cost. The externalities across buyers in accepting the contracts – and in being diligent in keeping track of the termination date of the contract so that sufficient notice of termination could be given – were clearly operative in the market. Buyers entered and renewed long-term contracts in spite of the potential collective benefits of facilitating entry by insisting on short-term (month-to-month) contracts. (Month-to-month contracts are adopted by some small firms in the commercial waste management industry.) The alternative Aghion-Bolton theory, extracting transfers from entrants, is very plausible as well in *Laidlaw*; in fact in these markets, new entrants have directly paid the damages in existing contracts of buyers as a means to attract them.

Long-term contracts are often an efficient means of organizing economic exchange, especially when relationship-specific investment on the part of the seller is needed to produce the service or product being exchanged. These contracts can,

33 Given a contract (p, d) , the entrant will attract the buyer in the ex post market if its cost is less than $p - d$. (The entrant's offer must compensate the buyer for the opportunity cost d of leaving the long-term contract.) Setting $p - d$ equal to the incumbent's cost c in the ex ante contract would ensure that the entrant produced when its cost was lower and therefore that market efficiency was achieved. But reducing $p - d$ slightly below c extracts a transfer from the entrant in all successful-entry states while having a zero first-order effect on total surplus.

34 The stark Aghion-Bolton model has been subjected to the criticisms that it requires damages in excess of amounts that would actually be enforced by courts, that is, in excess of expectation damages (Posner 2001, 232) and that it requires an assumption against rational renegotiation by the contracting parties. It is nonetheless exactly the right model for the point that it makes. Given all of the other influences on contract design by an incumbent, the incentive to extract a transfer from a potential entrant increases the optimal stipulated damages with possibly anticompetitive effects.

35 *Canada (Director of Investigation and Research) v. Laidlaw Waste Systems* (1992), 40 C.P.R. (3d) 289 (Comp. Trib.).

for example, protect against the consequences of hold-up following significant specific investment by a seller.

The key evidence in *Laidlaw* that allowed the rejection of an efficiency explanation of long-term contracts is the very small degree of specificity in suppliers' investments. While garbage trucks and bins represent fixed costs that must be covered by a supplier's revenue, the value of these assets is not specific to any buyer.³⁶ *Laidlaw* could provide no persuasive efficiency explanation of the long-term contracts.

Nielsen is a second Canadian case that illustrates a richer set of incentives for exclusionary contracts, including the two Aghion-Bolton theories. In 1986, Nielsen, an incumbent monopolist in the market for scanner-based marketing information in Canada, faced the threat of entry by a second firm, IRI. Nielsen's first response to this threat was to offer selected buyers long-term contracts, with stipulated damages, in exchange for price concessions. Again, both Aghion-Bolton theories were at work. Buyers were not organized collectively in their decisions on accepting long-term contracts, and therefore buyer externalities in acceptance decisions were not internalized. And the cost to a rational buyer in this market of accepting a contract with a damage measure was mitigated by the recognition that higher damages would change the threat point of the buyer in negotiating a price with the entrant, conditional upon successful entry, with the result of a lower price to the buyer.

The emergence and plans of the potential entrant, IRI, were revealed in 1986; IRI had made no serious attempts at entry prior to that year. As soon as IRI's plans for entry became known, the length of Nielsen's contracts increased from a few months to contracts as long as 3 to 5 years. Furthermore, Nielsen targeted those buyers at particular risk of losing to IRI.³⁷

Entry-detering contracts emerged in this case not only in the downstream market with buyers, but in the upstream market with input suppliers. The upstream suppliers in this case were 10 regional grocery chains providing raw scanner data. The case illustrates the basic principle that in establishing contracts with upstream input suppliers, incumbency does not yield a first-mover advantage, as it does in setting contracts with downstream buyers.³⁸ The entrant and the incumbent competed simultaneously, over a relatively short period of time, for the rights to the raw data from each of the upstream suppliers.

Jing and Winter (2009) consider a model of simultaneous bidding by two firms, for the rights to upstream inputs, based on the profits that the firms will earn in downstream Bertrand competition. Firms submit bids based on

36 Additional evidence that one could draw on in a case like *Laidlaw* would be a cross-sectional study of contracts across the thousands of various geographic markets for commercial waste services. Evidence of relatively short-term contracts in unconcentrated markets would allow rejection of the efficiency hypothesis.

37 These buyers were Canadian subsidiaries of firms that purchased from IRI in the U.S.

38 Nothing prevents a potential entrant from buying inputs before becoming established in a market, whereas forward contracts with buyers could be difficult to write. This asymmetry is due to the fact that production takes time.

non-exclusive and exclusive rights to each input. An equilibrium in this game yields an allocation of rights to upstream inputs that maximizes the combined profits of the firms in the subsequent downstream game. Under particular conditions, this privately efficient allocation may include assignment of some inputs to both firms. But profits are maximized at an allocation of all inputs to one firm, and the equilibrium of the game is for one firm to establish exclusive contracts with all input suppliers, under two conditions: a high degree of *complementarity* of upstream inputs and high inherent *substitutability* of the products downstream. (By inherent substitutability downstream, I mean the substitutability of the two products conditional upon the same set of inputs.) High complementarity of inputs restricts the equilibrium to three possibilities: all inputs allocated to one firm; all to the other firm; or all inputs to both firms. Strong substitutability of the products downstream means that the last of these three allocations is ruled out: the prospect of strong price competition between two close substitutes means that profits are higher with a monopolist than with both firms in the market.

The facts in *Nielsen* fit the complementarity/substitutability condition: all informational inputs upstream were necessary to offer a nationally representative information base, which was valued most highly by buyers. Downstream, Nielsen and IRI offered very similar sets of products. The outcome of the bidding game was as theory predicts: Nielsen was successful in bidding for all inputs. This adds a third channel (beyond the two Aghion-Bolton theories) through which exclusivity led to monopoly in the Canadian market for scanner-based information: bidding for exclusive rights to upstream inputs.

In addition to the three theories for exclusionary contract incentives outlined above, Jing and I argue that Nielsen involved a fourth incentive channel. This theory involves an *interaction* between the upstream game and the downstream long-term contract strategy. In the upstream game, if the incumbent and the entrant are nearly equal in terms of their ability to earn profits as a subsequent monopolist, then almost all prospective rents are transferred upstream in the form of bids. This is because equilibrium bid in any auction under certainty is the value of the item (here, the rights) to the agent with the second-highest value. This means that any strategy that the incumbent can implement to reduce the value of the rights to the entrant leads to a lower bid for the rights – and therefore a reduction in the transfer of monopoly rents upstream. A natural such strategy is the adoption of long-term contracts downstream. Hence, we have an additional incentive channel for explaining the long-term contract with each downstream buyer, beyond the extraction of transfers from the entrant or from other buyers: by adding asymmetry to the upstream bidding game, the contract implements a transfer of rents from the upstream suppliers to the contracting pair.

To summarize the answer to our first set of questions regarding exclusion, under some circumstances even long-term contracts can be exclusionary with anticompetitive (i.e., efficiency-reducing) effects. In *Laidlaw* and *Nielsen*, persuasive evidence was not brought by the respondents to explain long-term contracts as efficient. Contracts were not necessary to protect investment in specific assets. In *Nielsen*, in particular, long-term buyer contracts were signed immediately upon

the appearance of the potential entrant and then only with the buyers who were most likely to sign with the entrant. Had long-term contracts been efficient, they would likely have been in place for all buyers and in place before the potential entrant appeared.

The law has long recognized that contracts can have exclusionary, anticompetitive effects, although not always with the right theoretical foundation. In a case like *Laidlaw*, the Competition Tribunal would reach the same decision today, but this time the theory would be correct.

3.2.2. Are there circumstances in which even complete foreclosure of a market, through exclusionary contracts, is efficient?

The answer to this question is ‘yes.’ There are many conditions under which the use of exclusivity contracts, leaving a single firm providing a product, can be efficient. I offer three important sets of economic conditions in which complete monopolization of a market through exclusivity can be efficient, and then I discuss the extent to which each of these three examples is (or is not) reflected in the law.³⁹ Two of these sets of conditions are familiar to economists; the final example is less well known.

Obviously the circumstances under which complete exclusivity is efficient differ from those in cases such as *Laidlaw* and *Nielsen*. At the conclusion of this section, I summarize the differences in the evidence consistent with efficient versus inefficient uses of exclusivity in the set of cases discussed.

The first case is one in which a monopolist uses an exclusivity contract to monopolize a market, but to make the contract acceptable to buyers must substantially lower the price of the contract. In the *Standards Fashion* case,⁴⁰ Standard Fashions, a dress pattern manufacturer, offered exclusive dealing contracts to department stores, but to attract stores to these exclusive contracts it reduced its prices by about 50%. Given the alternatives available to department stores and to consumers, Standard Fashions had to reduce its price to make its contract offers acceptable. In many U.S. towns at the time, there was a single department store. The U.S. Supreme Court decision against Standard Fashions was based on a concern that the contracts would create monopolies in ‘hundreds if not thousands of communities’ where there was a single retailer. The sale of dress patterns in each town with a single department store may well have been a separate geographic market,⁴¹ and the contracts thus may well have changed the structure in each of these small markets to an apparent monopoly. But the power of potential competition – competition ‘for the market’ – under exclusive dealing was even stronger than the previous competition ‘within the market’ in terms of keeping prices low. The key is that other dress manufacturers could enter any

39 These examples go beyond the classic efficiency explanations of exclusivity as protecting the returns on specific investment (Joskow 1987) and preventing free-riding on manufacturer investment in dealer services (Marvel 1982).

40 *Standard Fashion Co. v. Magrane-Houston Co.*, 258 U.S. 346 (1922).

41 This would depend on the extent to which mail order catalogues were a substitute for department store purchases of dress patterns.

local market with very little market-specific investment and therefore remained a constant source of discipline while the exclusive dealing contracts were signed and renewed. (This situation contrasts with the conditions in *Laidlaw* and the setting of buyer contracts in *Nielsen*, where the incumbent firm in each case was able to pre-empt competitive discipline by signing buyers to long-term contracts before the rivals were well established.)

Mathewson and Winter (1987) interpret exclusive dealing in this situation as a decision by a dominant firm to move from a game of competition within the market to competition for the market, and show that the move may be in the interest of both the firm and consumers. The price decrease may be large enough to more than compensate consumers for the loss in product variety with exclusive dealing. Klein (2003) presents a persuasive analysis of exclusive dealing as competition 'on the merits' (a term introduced by the D.C. Circuit Court in the *Microsoft* case) in a number of cases.⁴² Where exclusive dealing contracts are combined with substantial price decreases, there should not be a presumption that the contracts are anticompetitive.

The second example in which an exclusivity-type contract may lead to a single supplier in a market is in the classic 'metering theory' of requirements tying (Friedman 1976; Tirole 1988, 146). A single supplier of machines (such as adding machines, specialized printers or photocopiers) may require as a condition of purchase of one of its machines that the buyer purchase her entire requirements of an associate variable input (cards with adding machines; ink with printers; or toner and service with photocopiers). Many cases involve this kind of tying. A monopolist selling one of a pair of goods that are strongly complementary, in the sense that the goods are always used together, cannot collect monopoly rents twice by extending its monopoly from one to both goods; and if all consumers have identical preferences, the optimal contract for a monopolist is to sell the variable input at marginal cost or let buyers purchase the input in a competitive market. This maximizes total surplus from the transaction, which can be split with the buyer in setting the machine price. But if the value of the product varies across buyers, buyers have private information on their values, and value and intensity of use are correlated across buyers, then the monopolist can use tying as a means of price discrimination. Therefore, the optimal price for a monopolist exceeds the competitive price for the variable input: the monopolist uses the intensity of demand to meter the value of the machine and through this strategy is able to extract a greater price from high-value users. To implement this surplus-extracting strategy, the monopolist must impose tying. This is the metering theory of requirements tying. Where this theory explains the practice, there is no basis

42 Klein expresses the point succinctly: 'If manufacturers are competing for distribution contracts [on the merits] on a 'level playing field,' where no manufacturer has an artificial advantage over any other, more efficient manufacturers cannot be driven out of the market and distributors will receive the full market value from manufacturers for their distribution. Competition among distributors for consumers then can be expected to pass this value on to consumers. In this way, 'competition on the merits' for distribution contracts is an important part of the normal competitive process.' (Klein 2003, 11).

for intervention in prohibiting the practice, because the tying does not necessarily reduce total surplus or total consumer surplus. Yet in the case of a monopolist, it can change the structure of the market for the variable input from perfect competition to monopoly.

My final example of potentially efficient monopolization by exclusionary contracts is intended to be more provocative. Exclusive contracts are most contentious when they are adopted by a dominant firm. But consider the following two facts. First, firms with large market shares often have the largest markups, $(p_i - mc_i)$, of price over marginal cost.⁴³ Firms have large market shares because of cost advantages over other firms, or quality or other demand-side advantages that are likely to involve not just higher demand for their products but lower demand elasticity. Second, the derivative of total welfare in a market with respect to the output at a single firm is given by (Dansby and Willig 1979):

$$\partial W / \partial q_i = (p - mc_i).$$

It follows that any business practice that shifts output from small firms to larger firms has the effect – at the margin, at least – of increasing total surplus. Exclusivity contracts can be efficient because they are exclusionary.

This is an argument that exclusionary contracts can be efficient *because* they exclude smaller firms from serving demand. Consider the following specific example, in which a dominant firm sells a construction material to manufacturers. (I shall refer to this as the ‘construction materials’ case.) A firm sells a product that is also supplied by a competitive fringe. The firm has a dominant market share because its product has higher quality, but bears the same unit cost as the competitive suppliers. The demand for material by each buyer is completely inelastic up to some price, but the proportion of the material that each buyer purchases from the dominant, high-quality firm is decreasing in the price that the firm charges for its product. Finally, the quantity demanded varies across consumers and is private information. Under these conditions, the optimal two-part tariff without exclusive dealing will involve a variable price in excess of marginal cost.⁴⁴ The consequence of the positive-markup is an inefficient substitution to the competitive suppliers. Exclusive dealing prevents the inefficient substitution, raising surplus that can be split between the seller and buyers.

Where the facts of a case fit this example – a dominant firm faces a competitive fringe that will remain in the market – an exclusive dealing contract is clearly efficient in spite of the fact that this may change the supply side of a market from highly competitive to monopoly. As a matter of economics, the high margin

43 This is true in either a Cournot equilibrium (Farrell and Shapiro 1990) or in a demand-side symmetric, differentiated Bertrand equilibrium with cost variation among firms. Note, however, that this condition does not hold in some markets. In the automobile industry, Ferrari has a higher markup than a high-volume seller such as Toyota.

44 This is often referred to as ‘Disneyland pricing’ (Oi 1971). The markup of price over marginal cost allows the firm to extract greater amounts from more intensive users.

for the dominant firm should be a defence of exclusivity that shifts output towards the firm from a competitive fringe. More generally, a business practice that shifts demand from smaller firms to a dominant firm has an efficiency property of transferring output to a firm with a high margin. Intuitively, the efficiency problem with monopoly (market power) is not high prices; it is low quantity. A practice that transfers market share to firms with greater market power can therefore be efficient. This supports a conservative policy towards intervention in striking down exclusive contracts, particularly where the competing firms remain available as alternatives in the market.

3.3. *Substantial foreclosure and the law*

Even complete foreclosure of a market to competitors can be efficient. I now examine the extent to which each of the three examples supporting this proposition is reflected in the law. The first situation to consider is the offer by a dominant firm of exclusive contracts with substantial price decreases. *Nutrasweet*⁴⁵ is a Canadian case that illustrates, in my view, a failure of the Tribunal to grasp the economic effects of exclusive contracts.

Nutrasweet 1990 was the first case under the abuse of dominance provisions in the 1986 Canadian Competition Act and dealt with a number of contractual provisions related to intellectual property rights. Nutrasweet Company (NSC) had held a Canadian patent on the artificial sweetener aspartame, which had expired in 1987. The central allegation of the director in this case was that NSC had extended its market power beyond the life of the patent through the use of various exclusionary strategies, including meet-or-release clauses, most favoured nation clauses and an allowance offered to buyers to display the Nutrasweet logo combined with a requirement for customers displaying this logo that they use exclusively the NSC brand aspartame.⁴⁶

The basic premise underlying the director's submissions was that the contractual arrangements undertaken by NutraSweet had allowed it to capture such a large percentage of the aspartame market that it effectively prevented existing and potential competitors from achieving 'toehold' entry into the Canadian 'market.' As *prima facie* proof of this submission, the director offered NutraSweet's market share of 95% in Canada. The Competition Tribunal held that the meet-or-release clauses dissuaded entry in that they discouraged the submission of rival bids from competitors. By inducing exclusive arrangements, the most favoured nation clauses were also held to be entry-detering instruments. Finally, the fidelity rebates associated with the use of the NutraSweet logo were held to impose upon customers an 'all-or-nothing' choice, thereby preventing a potential supplier from achieving an output large enough to exploit the significant economies of scale. The Tribunal found that the package of NutraSweet's strategies had the effect of

45 *Canada (Director of Investigation and Research) v. NutraSweet Co.* (1990), 32 C.P.R. (3d) 1 (Comp.Trib.).

46 In addition, the Director alleged that Nutrasweet had been selling below its acquisition cost, one of the potentially anticompetitive practices listed in section 78. The Competition Tribunal found, however, that Nutrasweet had not engaged in below-cost predatory pricing.

substantially lessening competition, permitting them to impose remedies under the Competition Act.

The two producers worldwide of aspartame were NSC and Holland Sweetener Company. Canada accounted for less than 5% of worldwide sales of aspartame. Diet soft drink manufacturers were the main buyers (85%) of aspartame in Canada, Coca-Cola and Pepsi being by far the largest purchasers. The essential facts in *Nutrasweet* are that two buyers (each accounting for 1% or 2% of the world purchases of aspartame) who could have purchased from either NSC or Holland Sweetener found the best price in purchasing entirely from NSC, with a deal that found them advertising Nutrasweet's logo in exchange for exclusivity and a very low price (so low, in fact, that the director regarded it as predatory in his application to the Tribunal). The provision by Coke and Pepsi of advertising space on their millions of small 'billboards' (pop cans) in exchange for a low price is a clear gain from trade.

By what reasoning did the Tribunal find NSC's contractual practices anticompetitive? The following quote captures the logic that the Tribunal relied upon: 'We agree with Tosoh's view that it was being used by Coke and Pepsi to obtain a better price from NSC and that there was little chance that either of them was seriously considering giving all of its Canadian business to Tosoh.' The Tribunal's reasoning is, to an economist, incoherent. The buyers' use of a competitive alternative, Tosoh, to obtain a better price from NSC *is* competition. Even if Canada were considered a single market, this would confuse a 100% market share by NSC with a lack of competition. Where competitive alternatives are available to buyers, and a good price is obtained by buyers as a result of these alternatives, exclusive restrictions cannot be considered anticompetitive. Here, exclusivity played the role of supporting part of an efficient exchange between the buyers and NSC: the provision of 'advertising space' on the buyers' products.⁴⁷

In the U.S., as Cooper et al. (2005) report, courts have been more receptive to considering price effects of exclusive dealing contracts. In a 1984 seventh circuit decision in *Roland Mach v Dresser Industries Inc.*, the court said that a necessary condition for exclusive dealing to be unlawful is that the probable effect will be to raise prices above the competitive level, or to otherwise injure competition. The economic principle was expressed cogently by Judge Frank Easterbrook in *Paddock Publ'ns., Inc. v. Chicago Tribune Co.*, 103 F.3d 42, 45 (7th Cir. 1996): 'Competition-for-the-contract is a form of competition that antitrust laws protect rather than proscribe, and it is common. Every year or two, General Motors, Ford, and Chrysler invite tire manufacturers to bid for exclusive rights to have their tires used in the manufacturers' cars. Exclusive contracts make the market hard to enter

47 *Nutrasweet* adds an additional dimension of confusion. Canada should not have been considered a separate market: there is no significant country-specific investment required to enter Canada, and this is a product for which the weight to value ratio is very small. The facts are simply that two buyers, each with 1% or 2% of the world market, got their best price by purchasing all of their demand from a single supplier, and in exchange for exclusivity and a price break provided advertising space that was of zero cost to them. Some of the dimensions of the contracts other than exclusivity were chosen, in fact, at the initiative of the two buyers and are also easily explained with efficiency arguments.

in mid-year but cannot stifle competition over the longer run, and competition of this kind drives down the price of tires, to the ultimate benefit of consumers.’

The second example where apparent complete foreclosure through exclusive dealing does not, as a matter of economics, justify intervention is in the case of tying for price discrimination or economic efficiencies. Here again, Canadian competition law is not consistent with the economics – and is joined in this respect by U.S. law. The most relevant Canadian case is *Yellow Pages* (1997).⁴⁸ Teledirect was a monopolist in the directory (yellow pages) market, with a 96% market share. Teledirect sold space in the directory to the purchase of all requirements of art, design, and other services that were purchased along with space in the directory.

The traditional view of requirements tying in this case would be that Teledirect leveraged its monopoly power from the market for space in yellow pages to the market for design and other services. The leverage theory of the extension of monopoly power through requirements tying has been resurrected by the post-Chicago school under some conditions – but no post-Chicago theory was offered by the director in *Yellow Pages*. The director argued simply that Teledirect was engaged in tied selling and noted that no economic defence was available to Teledirect under the applicable section (s. 77) of the Competition Act. The director’s argument was essentially the traditional leverage argument, that Teledirect’s tying allowed it to suppress competition in the market for advertising services.

This case can be understood by starting with the following benchmark. Suppose that all buyers are identical (to set aside price discrimination incentives) with some preferences over space and advertising. Suppose further that advertising services can be supplied competitively (which is probably close to the actual facts in the case) and that there are no efficiencies. Then Teledirect would have no incentive to tie: Teledirect and each buyer would set a surplus-maximizing contract, since there is no scope for extracting rents from parties outside the contract, and the surplus would be divided between the parties via a fixed fee.⁴⁹

Any theory of the case must explain tying. Metering is the first theory that would come to mind, but it is contradicted by the evidence that advertising services were provided at zero marginal price. (In this respect, the practice was like bundling.) A second hypothesis is a quality externality theory, whereby the quality of artwork and information provided by any subset of advertisers benefited all other advertisers because it made the directory more likely to be read – analogous to the externalities among authors writing different chapters in a book. Teledirect was able to internalize these externalities by assuring the quality of the services under a requirements tying restraint.⁵⁰ Again, complete foreclosure is not an indication of inefficiency.

48 *Canada (Director of Investigation and Research) v. Tele-Direct Publications Inc.* (1997) 73 C.P.R. (3d) 1 (Comp. Trib.).

49 Note that this argument requires simply that all purchasers of advertising services are also purchasers, from Teledirect, of advertising space. It does not assume that advertising space and services are, at all prices, complements.

50 The quality externality theory was offered by an expert in the case, Professor Michael Trebilcock, who referred to it as the ‘completeness’ hypothesis. Some large advertisers bypassed Teledirect’s supply of services, presumably because of a desire for higher quality. Teledirect’s practice would ensure a minimum quality level of advertising artwork.

My point is not that the hypothesis of quality externalities is demonstrated by the evidence in the case. But when a simple pro-competitive theory can explain a business practice, and when, as in *Yellow Pages*, the director offers no theory of a business practice as anticompetitive, then the Tribunal should not intervene. The Tribunal erred in its assessment of the case. It focused on the impact of tying on the state of competition in the tied goods markets: the market for art, design, and services. As we have discussed, even the complete elimination of competition in the tied goods market does not, in itself, indicate any benefits of intervention.

Under U.S. law, success on a tying claim typically involves proof of four elements: (1) two separate products or services are involved; (2) the purchase of the tying product is conditioned on the additional purchase of the tied product; (3) the seller has sufficient market power in the market for the tying product; (4) a not insubstantial amount of interstate commerce in the tied product market is affected.⁵¹ The use of tying as a metering device, for example, would be struck down in the U.S.

In summary, neither Canadian law nor U.S. law recognizes the possible efficiency of complete foreclosure in the case of metering theories, or efficiency theories such as the quality externality theory.

This brings us to the final example I have offered for the proposition that even complete, or near complete, monopolization of a market through requirements tying is not necessarily inefficient. This final example is the theory that exclusion can be efficient *because* it excludes or reduces the output of small firms that, as evidence may well show in a particular case, have lower markups. Do I think that this theory would ever be accepted as a defence of exclusivity?

Not a chance. A defendant relying on this theory would effectively be making the argument, ‘I have the highest price, or highest margin, in the market; and exclusivity allows me to charge these high prices for even *more* units.’ To an economist, this is actually a sensible efficiency argument. Diverting output to firms with high markups increases surplus. But in a courtroom, this argument would be met with incredulity if not laughter. A court would undoubtedly focus on the effect of increased dominance, not on the efficiency effect of exclusivity.

3.4. Conclusion on exclusion

In discussing the competitive effects of exclusion, I have not set out the full range of theories and types of evidence that must be brought to distinguish pre-competitive from anticompetitive exclusivity contracts. I have also avoided more complex cases in the area, such as those involving loyalty payments (*Canada Pipe*),⁵² bundled discounts (*SmithKline Corp. v. Eli Lilly & Co.*),⁵³ and innovation incentives (*Microsoft and Intel*).^{54, 55} My more modest goal has been to develop, with case examples, the two most basic propositions in this area: (1) that

51 *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 461–2 (1992).

52 *Canada (Commissioner of Competition) v. Canada Pipe* (2005) 40 C.P.R. (4th) 453 (Comp. Trib.).

53 427 F. Supp. 1089 (E.D. Pa. 1976), *aff'd*, 575 F.2d 1056 (3d Cir. 1978).

54 *United States v. Microsoft Corp.*, 253 F.3d 34, 81 (D.C. Cir. 2001).

55 European Commission decision on *Intel*, 13 May 2009.

anticompetitive, exclusionary contracts can be profitable (*Laidlaw* and *Nielsen*); (2) but even complete or substantial exclusion of rivals from a market is not necessarily inefficient.

A review of the evidence in several of our cases, however, is useful as an indication of what is relevant in more cases in general. In *Laidlaw* the respondent could not provide convincing evidence that long-term contracts were necessary for efficiency purposes, for example, to protect returns on relationship-specific investment or to provide efficient risk-sharing. The extent of asset specificity in *Laidlaw* was very small. The staggered long-term contracts in *Laidlaw* were the only barrier to entry, and themselves prevented strong competitive discipline on the rival. The evidence in the case, in short, fit the Aghion-Bolton theories, not an efficiency theory of long-term contracts. In *Nielsen* the evidence was similar with respect to the downstream contracts – with the additional observation that Nielsen implemented long-term contracts only when entry was attempted and only with buyers most likely to switch to the entrant. Nielsen was unable to offer a convincing efficiency reason for the switch to long-term contracts.

Standard Fashions shared an important fact with *Laidlaw* and *Nielsen*: the absence of significant asset specificity. Yet in this case, prices dropped substantially with the offer of exclusive contracts. At the time of the contract offers by the incumbent in *Standard Fashions*, rival manufacturers were already established and remained an option for retailers into the future as well. Rivals remained a competitive discipline on the incumbent rather than being pre-empted by the incumbent's exclusive contracts.

4. Conclusion

In a number of areas, antitrust law towards single-firm strategies has gained a more solid economic foundation in recent years. Resale price maintenance is no longer per se illegal in Canada or the U.S. This is as it should be, because this practice appears most often to be an instrument for shifting the mix of price and service (sales effort, prominent displays, transactions-cost lowering strategies) at the retail level. We do not regulate firms' choice of this strategy mix, even in the case of a monopoly, when the choice is implemented directly. Nor should we when the choice is implemented via incentive contracts. The U.S. law, however, remains some distance from an economically justified set of regulations in that the burden of proof of showing pro-competitive effects too easily falls on the defendant – always on the defendant in the case of a monopolist.

On strategies other than resale price maintenance, I considered two general themes: predation and exclusion via other strategies. The law on predation, I concluded, was a success story for the influence of economic theory. The new legal requirement of evidence on recoupment will rule out decisions such as the absurd decision reached in *Hoffmann-LaRoche*. Price-cost tests alone cannot support a reasonable law on predation because they are very difficult to implement both conceptually and practically, as *Hoffmann-LaRoche* and *Air Canada* illustrate. Successful predatory pricing cases are rare, but this is as it should be – not only

because actual cases of predation are unusual but, even more important, these cases are difficult to identify. Not all economists share this view of the law on predation.

With respect to other means of exclusion, on the first question I addressed – are anticompetitive exclusionary contracts even possible? – economic theory has moved more than the law. *Nielsen* illustrates the full range of incentives for anticompetitive contracts, and the *Laidlaw* decision has a more solid foundation than the basis that was provided in the case.

The final question I addressed – is even complete or substantial exclusion inefficient or anticompetitive? – reveals where the remaining gap between economics and law is the largest. *Nutrasweet* illustrates, more clearly than any other case I have seen, the confusion that can arise on the part of policymakers over the basic concept of what constitutes competition. A decision like this would be reached today in Canada. And exclusion that is accompanied by price decreases is clearly more acceptable under U.S. law.

My final example of efficient exclusion was a theory that exclusivity contracts can increase surplus when they transfer production to already dominant, high-markup firms. This is a useful theory on which to end this address comparing and contrasting the economics and law of antitrust restrictions on single firm strategies, because it is hard to think of an example where the contrast between the law and the criterion of economic efficiency is sharper. What are the sources of this difference? Some U.S. scholars would point to the economists' criterion of total efficiency (total surplus) and argue that the law is about protecting consumers. I think that this difference in criteria does not explain the gap between law and economics. In Canada, where the criterion in competition policy is arguably closer to total surplus, it is still inconceivable that in our last example the efficiency defence would work.

The remaining gap between law and economics reflects to some extent a difference in the objectives of economics and courts. Courts reveal concerns over two things that economists do not. The first is protecting a firm's rivals against harm. This can lead to problems, because any pro-competitive practice also harms rivals. We saw this in our discussion of *Nutrasweet*. Evidence of harm to rivals offers no power at all to distinguish between pro-competitive and anticompetitive practices. The Federal Court of Appeal, in the recent *Canada Pipe* decision, unfortunately strengthened the importance in Canadian competition law of harm to competitors in the interpretation of the abuse of dominance section of the Act.⁵⁶

56 Section 79 (1) lists three necessary conditions for intervention by the Tribunal in an abuse of dominance case. Roughly, the condition in 79 1 (a) is that a firm be dominant in a market; the condition in 79 1 (b) is that the business practice at issue is 'anticompetitive'; and the condition in 79 1 (c) is that the result of the practice is a 'substantial lessening of competition.' The principles of statutory interpretation require that the conditions be interpreted so as to avoid redundancy, and therefore condition 79 1 (b) must differ in meaning from 79 1 (c). The court used this reasoning to state that since 79 1 (c) is about harm to competition, 79 1 (b) should be interpreted as involving harm to a competitor. As Trebilcock (2007) points out, however, 79 1 (b) could be interpreted as harm to competition, with 79 1 (c) expressing a condition on the quantification of this harm. Trebilcock's proposed interpretation, unlike the court's interpretation, would leave the law consistent with economic foundations.

Courts also reveal a concern for protecting a competitive market structure, as measured by a lack of concentration or dominance in market shares. This is clear in tying cases such as *Yellow Pages*. Where courts or the Tribunal find a market in which competition has been lessened by a practice, they are very likely to find a practice anticompetitive and therefore illegal. For economists, on the other hand, competition is not an end in itself but rather a means to greater welfare of market participants.

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